

## REMARKS

Claims 1-29 are currently pending. No amendments to the claims have been made.

### Section 103

Claims 20-29 have been rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 6,764,475 to Bialke et al. ("Bialke"). This rejection is respectfully traversed.

In order to establish a *prima facie* case of obviousness, (1) all elements of a claim exist in the prior art, (2) there must be some rationale for combining or modifying those teachings such as a motivation to combine, and (3) must include either an expectation of success or predictable results.

The Examiner has addressed Applicants' previous comments for this reference by stating that Bialke offers three options for chain extension (1) use of diols, (2) use of diamines, or (3) both. The Examiner then concludes that the diamine may be absent. Applicants agree that the diamine is optional, however, the chain extension is not optional. If diamine is absent from Bialke, chain extension must be provided by the diol resulting in a polyurethane, not a urea/urethane polymer as required in the present claims.

Independent claim 20 is directed to a film prepared from an ionomeric urea/urethane polymer comprising (a) repeating units derived from an aliphatic polyester polyol, and (b) repeating units derived from a polyisocyanate. The polymer contains less than about 2 mole % of urea units described by the formula  $-R-N(R^2)-C(O)-N(R^2)-R^1$ , where  $R^1$  is a  $C_{1-20}$  aliphatic hydrocarbon radical. In order for  $R^1$  to be a  $C_{1-20}$  aliphatic hydrocarbon radical, either an aliphatic diamine such as ethylenediamine as a chain extender or an aliphatic polyisocyanate must be used. The present invention has achieved films which are suitable for use in gloves prepared from an ionomeric urea/urethane polymer without the use of a diamine chain extender.

Bialke is not directed to polyureaurethane films, but is instead directed to polymers and polymer blends which include step (1) a polymer in latex or dispersion form based on alkylene oxide and (2) one or more other polymer latexes or dispersions which may include polyurethane. Bialke refers to U.S. Patent No. 6,017,997 to Snow et al. ("Snow") for the disclosure of water-borne polyurethane, polyurea, and poly(urethane-urea) dispersions ("PUD"). Bialke then generically describes some components which may be included in

PUDs. For example at column 8, lines 42-44, Bialke states, "Generally PUD comprises polymerized units of diisocyanate and hydrophilic moiety, together with diol, diamine, or both diol and diamine." Bialke does not disclose the preparation of a polyurethaneurea dispersion prepared without the addition of a diamine chain extender and does not disclose that water may be used as a chain extender.

The Examiner has relied on the generic teaching of "PUD" for allegedly showing that an ionomeric urea/urethane polymer is prepared without the use of a diamine chain extender as in the present claims. However, none of the elements of Claim 20 are present in this disclosure. Specifically, Bialke does not disclose an ionomeric urea/urethane polymer having the claimed urea concentration limitation.

The Examiner has alleged that it would have been obvious to one of ordinary skill in the art to adjust the amount of the diamine chain extender in order to achieve the specific urea concentration of claim 20. Although using different amounts of a chain extender will result in a different urea groups, the limited urea group of claim 20 is accomplished by primarily using water as the chain extender, which Bialke fails to disclose.

Based on the PUD disclosure included in Bialke, there is no disclosure or teaching of a polyurethaneurea prepared in the absence of a diamine chain extender. The only teaching is that diamine chain extenders are generally included in polyurethane dispersions. Furthermore, there is no disclosure that water may be used as the chain extender in preparation of an ionomeric urea/urethane composition. Since Bialke provides no disclosure of a PUD prepared in the absence of a diamine chain extender, Bialke only discloses aliphatic diamine chain extenders (column 9, lines 12-15), and Bialke fails to teach water as a chain extender, the urea concentration of Claim 20 would not be possible following the teachings of Bialke.

Moreover, it is possible that one would look to the source of the PUD information disclosed in Bialke, for further teaching of the diamine chain extender. As stated above, the PUD disclosure is from Snow. In Snow, it is very clear that an amine chain extender is required. Specifically, Snow states at column 2, line 62 to column 3, line 3:

The polyurethane comprises the reaction product of (a) a polyisocyanate component; (b) an active hydrogen containing component, such as a polyol or a polyamide; and (c) a water-solubilizing compound having water-solubilizing groups to form an

isocyanate terminal prepolymer, which is neutralized by reaction with a tertiary amine, dispersed in water, and the reaction product is then *chain extended by reaction with a primary or secondary amine*. (emphasis added).

One following these teachings set forth in Snow, would include a diamine chain extender in a urea/urethane composition and would be outside the claimed urea concentration of Claim 20.

With respect to claim 29, Bialke also fails to disclose a glove.

Since Bialke fails to disclose the claimed urea concentration and fails to provide any rationale for modifying the urea concentration, Bialke fails as a proper reference under Section 103. Reconsideration and withdrawal of the rejections of Claims 20-29 are respectfully requested.

Claims 1-8, 10-12, 14-18, 20-22, and 24-26 have been rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 5,037,864 to Anand et al. ("Anand"). This rejection is respectfully traversed.

Claim 1 is directed to a urea/urethane polymer having a urea content of a specific formula in an about less than about 2%. This urea content is not disclosed by Anand. At paragraph 7, the top of page 4 of the office action dated July 22, 2009, the Examiner has asserted, "it has been known within the skill in the art that the amount of water used would determine the amount of the urea groups. Therefore, it would have been obvious to one of ordinary skill in the art that the amount of urea groups would have been realized by adjusting the amount of water." This statement does not correctly address the modification required to achieve the presently claimed urea content.

Altering the amount of water in the dispersion will only effect the concentration of the urea/urethane polymer. It will not affect the production of urea groups within the polymer. For example, where a diamine is the chain extender, urea groups will result, but when a diol is used as the chain extender, urea groups will be absent. Since the present claims require urea groups to be present, diol cannot be the sole chain extender. On the other hand, use of a diamine chain extender as the only chain extender would provide urea groups outside present claims. The Examiner has asserted that by altering the amount of water used, the type of urea group would be affected. However, given the higher rate of reaction for the

diamine chain extender, in comparison to water, it is clearly the amount of diamine chain extender that must be reduced or removed to achieve the urea/urethane polymer of the present claims. Anand provides no rationale or motivation for modifying the amount of diamine chain extender used. Accordingly, Anand fails to establish a *prima facie* case of obviousness. Reconsideration and withdrawal of the rejection in view of Anand are respectfully requested.

Claims 9, 13, 19, 23 and 27 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Anand in view of Bialke or U.S. Patent No. 3,178,310 to Berger ("Berger.") These rejections are respectfully traversed.

Berger and Bialke are only applied to dependent claims and provide no disclosure or teaching that overcomes the deficiencies of the primary reference, Anand. Accordingly, reconsideration and withdrawal of the rejections in view of Anand in view of Bialke or Berger are respectfully requested.

#### CONCLUSION

For the reasons stated above, claims 1-29 are believed to be in condition for allowance. Accordingly, Applicants respectfully request that the Application be allowed. If prosecution may be further advanced, the Examiner is invited to telephone the undersigned to discuss this application.

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Respectfully submitted,

  
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